H-3

OIPE

RAW SEQUENCE LISTING   DATE: 02/06/2002
PATENT APPLICATION: US/10/051,835   TIME: 19:15:46

Input Set : A:\pa0044us_seqlisting.txt
Output Set: N:\CRF3\02062002\J051835.raw   *p5*

```
      1 <110> APPLICANT: Jones, David A.
      2       Lasek, Amy W.
      4 <120> TITLE OF INVENTION: GENES REGULATED BY DNA METHYLATION IN TUMOR CELLS
      6 <130> FILE REFERENCE: PA-0044 US
C--> 8 <140> CURRENT APPLICATION NUMBER: US/10/051,835
C--> 9 <141> CURRENT FILING DATE: 2002-01-16
     11 <160> NUMBER OF SEQ ID NOS: 25
     12 <170> SOFTWARE: PERL Program
     14 <210> SEQ ID NO: 1
     15 <211> LENGTH: 669
     16 <212> TYPE: DNA
     17 <213> ORGANISM: Homo sapiens
     19 <220> FEATURE:
     20 <221> NAME/KEY: misc_feature
     21 <223> OTHER INFORMATION: Incyte ID No: 980547.1
     23 <400> SEQUENCE: 1
     24 cacaacgcag gcaccgactt cagtgtgcat gttccttgga cacctgcctc agtgtgcatg 60
     25 ttcactgggc atcttccctt cgaccccttt gcccacgtgg tgaccgctgg ggagctgtga 120
     26 gagtgtgagg ggcacgttcc agccgtctgg actctttctc tcctactgag acgcagccta 180
     27 taggtccgca ggccagtcct cccaggaact gaaatagtga aatatgagtt ggcgaggaag 240
     28 atcaacatat aggcctaggc caagaagaag tttacagcct cctgagctga ttggggctat 300
     29 gcttactggc tcccctttgt cccaggaacc cactgatgaa gagcctaaag aagagaaacc 360
     30 acccactaaa agtcggaatc ctacacctga tcagaagaga gaagatgatc agggtgcagc 420
     31 tgagattcaa gtgcctgacc tggaagccga tctccaggag ctatgtcaga caaagactgg 480
     32 ggatggatgt gaaggtggta ctgatgtcaa ggggaagatt ctaccaaaag cagagcactt 540
     33 taaaatgcca gaagcaggtg aagggaaatc acaggtttaa aggaagataa gctgaaacaa 600
     34 cacaaactgt ttttatatta gatattttac tttaaagagt cttaataaat ttttggcatg 660
     35 ctcgatctc                                                    669
     37 <210> SEQ ID NO: 2
     38 <211> LENGTH: 588
     39 <212> TYPE: DNA
     40 <213> ORGANISM: Homo sapiens
     42 <220> FEATURE:
     43 <221> NAME/KEY: misc_feature
     44 <223> OTHER INFORMATION: Incyte ID No: 4030354CB1
     46 <400> SEQUENCE: 2
     47 tagctcagtg cgcatgttca ctgggcgtct tctgcccggc accttcgccc acgtgaagaa 60
     48 cgccagggag ctgtgaggca gtgctgtgtg gttcctgccg tccggactct ttttcctcta 120
     49 ctgagattca tctgtgtgaa atatgagttg gcgaggaaga tcgacctatt attggcctag 180
     50 accaaggcgc tatgtacagc ctcctgaagt gattgggcct atgcggcccg agcagttcag 240
     51 tgatgaagtg gaaccagcaa cacctgaaga aggggaacca gcaactcaac gtcaggatcc 300
     52 tgcagctgct caggaggggag aggatgaggg agcatctgca ggtcaagggc cgaagcctga 360
     53 agctcatagc caggaacagg gtcacccaca gactgggtgt gagtgtgaag atggtcctga 420
```

RAW SEQUENCE LISTING   . DATE: 02/06/2002
· PATENT APPLICATION: US/10/051,835   TIME: 19:15:46

          Input Set : A:\pa0044us_seqlisting.txt
          Output Set: N:\CRF3\02062002\J051835.raw

```
54 tgggcaggag atggacccgc caaatccaga ggaggtgaaa acgcctgaag aaggtgaaaa 480
55 gcaatcacag tgttaaaaga aggcacgttg aaatgatgca ggctgctcct atgttggaaa 540
56 tttgttcatt aaaattctcc caataaagct ttacagcctt ctgcaaag         588
58 <210> SEQ ID NO: 3
59 <211> LENGTH: 660
60 <212> TYPE: DNA
61 <213> ORGANISM: Homo sapiens
63 <220> FEATURE:
64 <221> NAME/KEY: misc_feature
65 <223> OTHER INFORMATION: Incyte ID No: 3886578CB1
67 <400> SEQUENCE: 3
68 cttaagacgg tgaggtcagc ttcacattct caggaactct ccttctttgg gtctggctga 60
69 agttgaggat ctcttactct ctaggccacg gaattaaccc gagcaggcat ggaggcctct 120
70 gctctcacct catcagcagt gaccagtgtg gccaaagtgg tcagggtggc ctctggctct 180
71 gccgtagttt tgcccctggc caggattgct acagttgtga ttggaggagt tgtggccatg 240
72 gcggctgtgc ccatggtgct cagtgccatg ggcttcactg cggcgggaat cgcctcgtcc 300
73 tccatagcag ccaagatgat gtccgcggcg gccattgcca atggggtgg agttgcctcg 360
74 ggcagccttg tggctactct gcagtcactg ggagcaactg gactctccgg attgaccaag 420
75 ttcatcctgg gctccattgg gtctgccatt gcggctgtca ttgcgaggtt ctactagctc 480
76 cctgcccctc gccctgcaga gaagagaacc atgccagggg agaaggcacc cagccatcct 540
77 gacccagcga ggagccaact atcccaaata tacctggggt gaaatatacc aaattctgca 600
78 tctccagagg aaaataagaa ataaagatga attgttgcaa ctcttaaaaa aaaaaaaaa 660
80 <210> SEQ ID NO: 4
81 <211> LENGTH: 1290
82 <212> TYPE: DNA
83 <213> ORGANISM: Homo sapiens
85 <220> FEATURE:
86 <221> NAME/KEY: misc_feature
87 <223> OTHER INFORMATION: Incyte ID No: 1471808CB1
89 <400> SEQUENCE: 4
90 gcccaggctc ggtgaggagg caagtcctgc agcctcagca tgcgctggcc ggatgtaccc 60
91 tgaggtgccc tctcacttcc tccttcaggt tctgaggga caggctgacc tggaggacca 120
92 gaggcccccg gaggagcact gaaggagaag atctgccagt gggtctccat tgcccagctc 180 .
93 ctgcccacac tcccgcctgt tgccctgacc agagtcatca tgcctcttga gcagaggagt 240
94 cagcactgca agcctgaaga aggccttgag gcccgaggag aggccctggg cctggtgggt 300
95 gcgcaggctc ctgctactga ggagcaggag gctgcctcct cctcttctac tctagttgaa 360
96 gtcaccctgg gggaggtgcc tgctgccgag tcaccagatc ctccccagag tcctcaggga 420
97 gcctccagcc tccccactac catgaactac cctctctgga gccaatccta tgaggactcc 480
98 agcaaccaag aagaggaggg gccaagcacc ttccctgacc tggagtctga gttccaagca 540
99 gcactcagta ggaaggtggc caagttggtt cattttctgc tcctcaagta tcgagccagg 600
100 gagccggtca caaaggcaga aatgctgggg agtgtcgtcg gaaattggca gtacttcttt 660
101 cctgtgatct tcagcaaagc ttccgattcc ttgcagctgg tctttggcat cgagctgatg 720
102 gaagtggacc ccatcggcca cttgtacatc tttgccacct gcctgggcct ctcctacgat 780
103 ggcctgctgg gtgacaatca gatcatgccc aagacaggct tcctgataat catcctggcc 840
104 ataatcgcaa aagagggcga ctgtgcccct gaggagaaaa tctgggagga gctgagtgtg 900
105 ttagaggtgt ttgaggggag ggaagacagt atcttggggg atcccaagaa .gctgctcacc 960
106 caacatttcg tgcaggaaaa ctacctggag taccggcagg tccccggcag tgatcctgca 1020
107 tgttatgaat tcctgtgggg tccaagggcc ctcgttgaaa ccagctatgt gaaagtcctg 1080
108 caccatatgg taaagatcag tggaggacct cgcatttcct acccactcct gcatgagtgg 1140
```

```
109 gctttgagag aggggggaaga gtgagtctga gcacgagttg cagccaggc cagtgggagg 1200
110 gggtttgggc cagtgcacct tccgggggccc catcccttag tttccactgc ctcctgtgac 1260
111 gtgaggccat tcttcactct ttgaaggagg                                   1290
113 <210> SEQ ID NO: 5
114 <211> LENGTH: 1109
115 <212> TYPE: DNA
116 <213> ORGANISM: Homo sapiens
118 <220> FEATURE:
119 <221> NAME/KEY: misc_feature
120 <223> OTHER INFORMATION: Incyte ID No: 3094768CB1
122 <220> FEATURE:
123 <221> NAME/KEY: unsure
124 <222> LOCATION: 953, 963-996, 1002-1012, 1016-1018, 1022-1023, 1030, 1032-1034, 1053,
125       1061, 1093
126 <223> OTHER INFORMATION: a, t, c, g, or other
128 <400> SEQUENCE: 5
129 cctgcaccag gagacactgg gaggtttagt ccccaaaccc gcacagagca ggactgcagc 60
130 ctgaggaaag agcaaggatt tcaggagaga ggcctgcgac aagtgagcag gaaatagaaa 120
131 cttaagagaa atacacactt ctgagaaact gaaacgacag gggaaaggag gtctcactga 180
132 gcaccgtccc agcatccgga caccacagcg gcccttcgct ccacgcagaa aaccacactt 240
133 ctcaaacctt cactcaacac ttccttcccc aaagccagaa gatgcacaag gaggaacatg 300
134 aggtggctgt gctggggggca ccccccagca ccatccttcc aaggtccacc gtgatcaaca 360
135 tccacagcga gacctccgtg cccgaccatg tcgtctggtc cctgttcaac accctcttct 420
136 tgaactggtg ctgtctgggc ttcatagcat tcgcctactc cgtgaagtct agggacagga 480
137 agatggttgg cgacgtgacc ggggcccagg cctatgcctc caccgccaag tgcctgaaca 540
138 tctgggccct gattctgggc atcctcatga ccattggatt catcctgtta ctggtattcg 600
139 gctctgtgac agtctaccat attatgttac agataataca ggaaaaacgg ggttactagt 660
140 agccgcccat agcctgcaac ctttgcactc cactgtgcaa tgctggccct gcacgctggg 720
141 gctgttgccc ctgccccctt ggtcctgccc ctagatacag cagtttatac ccacacacct 780
142 gtctacactg acattcaata aagtgacgtg cttgtgaaaa aaaaacaaat aaaacccgag 840
143 ggggggggccg gacccatttc gccctaaggg gaggatatac attcccgggc ggtgttatac 900
```
W--> 144 `acgctgggat gggacacctt gggtatccaa ttaacgcctg catccttcag agncccgggg 960`
W--> 145 `atnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnncacc annnnnnnnn nncccnnncc 1020`
W--> 146 `cnnccacccn cnnncccac actctccccc acncacccca naacaaacac ccagccctca 1080`
W--> 147 `ccatccctca canaattcca ccctatccg                                   1109`
```
149 <210> SEQ ID NO: 6
150 <211> LENGTH: 2931
151 <212> TYPE: DNA
152 <213> ORGANISM: Homo sapiens
154 <220> FEATURE:
155 <221> NAME/KEY: misc_feature
156 <223> OTHER INFORMATION: Incyte ID No: 1097797.1
158 <400> SEQUENCE: 6
159 ggatccggcc ggatctcagg gaggtgagga ctttgttctc agagggtgtg tgtggacaaa 60
160 acagggaggc cctgtgttcg acagacacag tggtcccagg attggagagc agtccaggtg 120
161 aggaacctaa gggaggatcg agggtacctc caggccagag aaactctcag atcaagagag 180
162 tttgccctgc ccctactgtc accccagaga gcccgggcag ggctgtctgc tgaggtccct 240
163 cctttatcct gggatcactg gtgtcgggga gggctggcct tggtctgagg gggctgcact 300
164 cacgtcagca gagggagggt cccaggccct gccaggagtc caggtgcaga ctgaggggac 360
```

RAW SEQUENCE LISTING   DATE: 02/06/2002
PATENT APPLICATION: US/10/051,835   TIME: 19:15:46

Input Set : A:\pa0044us_seqlisting.txt
Output Set: N:\CRF3\02062002\J051835.raw

```
165 cccactcacc aaacacagag gacctagccc caccctgccc cttgtgtcag ctgagggaag 420
166 ccgctgggtg gatggactcc cctcacttcc tcttcaggtg tctcctggag atagggcctc 480
167 aggtcaacag agggagggtt ccagaccctg caggcatcaa gatgaggacc aggcagtatc 540
168 ctcaccccag gacacatgga ccccattgta tttagacatc tcttactgta cttccgagga 600
169 aaccctgggc aggtgtgggc agatgttggt tggggcatgt ccttctgttc catatcaggg 660
170 atgtgagctc ctgatctgag agactctcag gcaagtagag gagtagagtc cagtccctgc 720
171 caggagaaag gtcagggccc tgagtgagcg cagaggggac catccacccc aaaagtgtgt 780
172 agaactcaag agtgtccagc ccgccgtctt gacagcactg agggaccggg gctctgcctg 840
173 cagtctgcag cctaagggcc cctcgattcc tcttccagga gctccaggaa gcaggcaggc 900
174 cttggtctga gacagtgtcc tcaggtcgca gagcagagga gacccaggca gtgtcagcag 960
175 tgaaggtgaa gtgttcaccc tgaatgtgca ccaagggccc cacctgcccc agcacacatg 1020
176 ggaccccata gcacctggcc ccattccccc tactgtcact catagagcct tgatctctgc 1080
177 aggctagctg cacgctgagt agccctctca cttcctccct caggttctcg ggacaggcta 1140
178 accaggagga caggagcccc aagaggcccc agagcagcac tgacgaagac ctgtaagtca 1200
179 gcctttgtta gaacctccaa ggttcggttc tcagctgaag tctctcacac actccctctc 1260
180 tccccaggcc tgtgggtctc catcgcccag ctcctgccca cgctcctgac tgctgccctg 1320
181 accagagtca tcatgtctct cgagcagagg agtccgcact gcaagcctga tgaagacctt 1380
182 gaagcccaag gagaggactt gggcctgatg ggtgcacagg aacccacagg cgaggaggag 1440
183 gagactacct cctcctctga cagcaaggag gaggaggtgt ctgctgctgg gtcatcaagt 1500
184 cctccccaga gtcctcaggg aggcgcttcc tcctccattt ccgtctacta cactttatgg 1560
185 agccaattcg atgagggctc cagcagtcaa gaagaggaag agccaagctc ctcggtcgac 1620
186 ccagctcagc tggagttcat gttccaagaa gcactgaaat tgaaggtggc tgagttggtt 1680
187 catttcctgc tccacaaata tcgagtcaag gagccggtca caaaggcaga aatgctggag 1740
188 agcgtcatca aaaattacaa gcgctacttt cctgtgatct tcggcaaagc ctccgagttc 1800
189 atgcaggtga tctttggcac tgatgtgaag gaggtggacc ccgccggcca ctcctacatc 1860
190 cttgtcactg ctcttggcct ctcgtgcgat agcatgctgg gtgatggtca tagcatgccc 1920
191 aaggccgccc tcctgatcat tgtcctgggt gtgatcctaa ccaaagacaa ctgcgcccct 1980
192 gaagaggtta tctgggaagc gttgagtgtg atggggtgt atgttgggaa ggagcacatg 2040
193 ttctacgggg agcccaggaa gctgctcacc caagattggg tgcaggaaaa ctacctggag 2100
194 taccggcagg tgcccggcag tgatcctgcg cactacgagt tcctgtgggg ttccaaggcc 2160
195 cacgctgaaa ccagctatga gaaggtcata aattatttgg tcatgctcaa tgcaagagag 2220
196 cccatctgct acccatccct ttatgaagag gttttgggag aggagcaaga gggagtctga 2280
197 gcaccagccg cagccggggc caaagtttgt ggggtcaggg ccccatccag cagctgccct 2340
198 gccccatgtg acatgaggcc cattcttcgc tctgtgtttg aagagagcaa tcagtgttct 2400
199 cagtggcagt gggtggaagt gagcacactg tatgtcatct ctgggctcct cgtctattga 2460
200 atgatttgga gctttatcct tgctcccttt tggaattgtt caaatgttct tttaatggtc 2520
201 agtttaatga acttcaccat cgaagttaat gaatgacagt agtcacacat attgctgttt 2580
202 atgttattta ggagtaagat tcttgctttt gagtcacatg gggaaatccc tgttattttg 2640
203 tgaattggga caagataaca tagcagagga attaataatt tttttgaaac ttgaacttag 2700
204 cagcaaaata gagctcataa agaaatagtg aaatgaaaat gtagttaatt cttgccttat 2760
205 acctctttct ctctcctgta aaattaaaat atatacatgt atacctggat ttgcttggct 2820
206 tctgggtgga tgtaagagaa ataaaaattg aaagaataat tttcctgtt cactggctca 2880
207 tttttcttc agacacgcac tgaacatctg ttattcggaa caccctgggt t        2931
209 <210> SEQ ID NO: 7
210 <211> LENGTH: 1084
211 <212> TYPE: DNA
212 <213> ORGANISM: Homo sapiens
214 <220> FEATURE:
215 <221> NAME/KEY: misc_feature
```

RAW SEQUENCE LISTING   DATE: 02/06/2002
PATENT APPLICATION: US/10/051,835   TIME: 19:15:46

Input Set : A:\pa0044us_seqlisting.txt
Output Set: N:\CRF3\02062002\J051835.raw

216 <223> OTHER INFORMATION: Incyte ID No: 476210.8
218 <400> SEQUENCE: 7
219 taaaaagcca gccttcagcc ggagaaccgt ttactcgctg ctgtgcccat ctatcagcag 60
220 gctccgggct gaagattgct tctcttctct cctccaaggt ctagtgacgg agcccgcgcg 120
221 cggcgccacc atgcggcaga aggcggtatc gcttttcttg tgctacctgc tgctcttcac 180
222 ttgcagtggg gtggaggcag gtaagaaaaa gtgctcggag agctcggaca gcggctccgg 240
223 gttctggaag gccctgacct tcatggccgt cggaggagga ctcgcagtcg ccgggctgcc 300
224 cgcgctgggc ttcaccggcg ccggcatcgc ggccaactcg gtggctgcct cgctgatgag 360
225 ctggtctgcg atcctgaatg ggggcggcgt gcccgccggg gggctagtgg ccacgctgca 420
226 gagcctcggg gctggtggca gcagcgtcgt cataggtaat attggtgccc tgatgggcta 480
227 cgccacccac aagtatctcg atagtgagga ggatgaggag tagccagcag ctcccagaac 540
228 ctcttcttcc ttcttggcct aactcttcca gttaggatct agaactttgc cctttttttt 600
229 tttttttttt ttttgagatg ggttctcact atattgtcca ggctagagtg cagtggctat 660
230 tcacagatgc gaacatagta cactgcagcc tccaactcct agcctcaagt gatcctcctg 720
231 tctcaacctc ccaagtagga ttacaagcat gcgccgacga tgcccagaat ccagaacttt 780
232 gtctatcact ctccccaaca acctagatgt gaaaacagaa taaacttcac ccagaaaaca 840
233 ctttgtcctg ctgtcaatca tgtttgcagt gagaagccca aaacaatctg gctctggcct 900
234 gcaccatcca cacaccccca ttcccatttt cccctcgagt caaccacagc tcctggaaca 960
235 caaccagttg attttgtttc tgggccttag cacatgttgg tctctacctg gatgccttca 1020
236 gaagctcatc tgcctgaaaa actcccttcc atccttccag actcagttca gacatccct 1080
237 cctc   1084
239 <210> SEQ ID NO: 8
240 <211> LENGTH: 4226
241 <212> TYPE: DNA
242 <213> ORGANISM: Homo sapiens
244 <220> FEATURE:
245 <221> NAME/KEY: misc_feature
246 <223> OTHER INFORMATION: Incyte ID No: 236484.15
248 <400> SEQUENCE: 8
249 tttcgctttc ctgcgcagag tctgcggagg ggctcggctg caccgggggg atcgcgcctg 60
250 gcagacccca gaccgagcag aggcgaccca gcgcgctcgg gagaggctgc accgccgcgc 120
251 ccccgcctag cccttccgga tcctgcgcgc agaaaagttt catttgctgt atgccatcct 180
252 cgagagctgt ctaggttaac gttcgcactc tgtgtatata acctcgacag tcttggcacc 240
253 taacgtgctg tgcgtagctg ctcctttggt tgaatcccca ggcccttgtt ggggcacaag 300
254 gtggcaggat gtctcagtgg tacgaacttc agcagcttga ctcaaaattc ctggagcagg 360
255 ttcaccagct ttatgatgac agttttccca tggaaatcag acagtacctg gcacagtggt 420
256 tagaaaagca agactgggag cacgctgcca atgatgtttc atttgccacc atccgttttc 480
257 atgacctcct gtcacagctg gatgatcaat atagtcgctt ttctttggag aataacttct 540
258 tgctacagca taacataagg aaaagcaagc gtaatcttca ggataatttt caggaagacc 600
259 caatccagat gtctatgatc atttacagct gtctgaagga agaaaggaaa attctggaaa 660
260 acgcccagag atttaatcag gctcagtcgg ggaatattca gagcacagtg atgttagaca 720
261 aacagaaaga gcttgacagt aaagtcagaa atgtgaagga caggttatg tgtatagagc 780
262 atgaaatcaa gagcctggaa gatttacaag atgaatatga cttcaaatgc aaaaccttgc 840
263 agaacagaga acacgagacc aatggtgtgg caaagagtga tcagaaacaa gaacagctgt 900
264 tactcaagaa gatgtattta atgcttgaca ataagagaaa ggaagtagtt cacaaaataa 960
265 tagagttgct gaatgtcact gaacttaccc agaatgccct gattaatgat gaactagtgg 1020
266 agtggaagcg gagacagcag agcgcctgta ttgggggggcc gcccaatgct tgcttggatc 1080
267 agctgcagaa ctggttcact atagttgcgg agagtctgca gcaagttcgg cagcagctta 1140
268 aaaagttgga ggaattggaa cagaaataca cctacgaaca tgaccctatc acaaaaaaca 1200

Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

VERIFICATION SUMMARY   DATE: 02/06/2002
PATENT APPLICATION: US/10/051,835   TIME: 19:15:47

Input Set : **A:\pa0044us_seqlisting.txt**
Output Set: **N:\CRF3\02062002\J051835.raw**

L:8 M:270 C: Current Application Number differs, Replaced Current Application Number
L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:145 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:541 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:695 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:723 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20

US 1005183508P1

Legal Date: 25-06-2002

No.	Doccode	Number of pages
1	C.AD	1

Total number of pages: 1

Remarks:

Order of re-scan issued on ....